

AMENDMENTS TO THE CLAIMS:

Please cancel claims 1-11, 13-23 and 25-30 without prejudice or disclaimer.

1-11. (Canceled)

12. (Currently amended) A system for identifying genes, comprising:
a pattern database comprising patterns of amino acids;
an input device for inputting a genomic DNA sequence; and
a processor which:
translates an open reading frame (ORF) of said DNA sequence into an amino acid
translation;
locates in said amino acid translation occurrences of said patterns from said
pattern database; and
determines whether said open reading frame includes a putative gene based on
said occurrences of said patterns of amino acids located in said amino acid translation of said
ORF,
wherein said processor identifies a match of a pattern from said pattern database in said
amino acid translation, and
~~The system according to claim 4,~~
wherein said ORF is reported as ~~at least part of~~ a putative gene when the sum of weights
corresponding to all patterns with matches in said amino acid translation exceeds a
predetermined threshold.

13-23. (Canceled)

24. (Currently amended) A system for identifying genes, comprising:
a pattern database comprising patterns of amino acids;
an input device for inputting a genomic DNA sequence; and

a processor which:
translates an open reading frame (ORF) of said DNA sequence into an amino acid
translation;
locates in said amino acid translation occurrences of said patterns from said
pattern database; and
determines whether said open reading frame includes a putative gene based on
said occurrences of said patterns of amino acids located in said amino acid translation of said
ORF,
wherein said processor translates a plurality of open reading frames in said DNA
sequence into amino acid translations, and locates in each amino acid translation occurrences of
said patterns to determine whether each said plurality open reading frames includes a putative
gene,
wherein said patterns comprise biologically significant patterns of amino acids in amino
acid sequences, and
~~The system according to claim 3,~~
wherein said processor determines for each pattern in said pattern database whether the
pattern is present in said amino acid translation by locating instances of said patterns in said
amino acid translation, until a sum of weights corresponding to all patterns with matches in said
amino acid translation exceeds a predetermined threshold, at which point said processor
identifies said ORF as ~~at least part of~~ a putative gene.

25-30. (Canceled)